

ECHINODERM TYPE-SPECIMENS IN THE SOUTH AUSTRALIAN MUSEUM

by

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ABSTRACT

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The collection of echinoderms in the South Australian Museum contains type material of 64 species including 47 holotypes, the remainder being secondary types. Species are listed alphabetically according to the original name of the genus or species.

INTRODUCTION

During the years 1890-1912, Sir Joseph Cooke Veroo spent much of his time and money dredging for marine life in Southern Australian waters (Veroo 1935). Although Veroo was mainly interested in molluscs the echinoderm material collected by him was considerable and formed the basis of the collection now held by the South Australian Museum. The holothurians collected by Veroo were examined by Joshua and Creed (1915) who described four new species from South Australian waters. H. L. Clark (1928) examined the remainder of Veroo's collection of echinoderms and this study resulted in the bulk of the type material held by this museum.

Since Veroo's collecting efforts there have only been two other additions of note to the type collection of echinoderms. In 1938 H. L. Clark donated paratypes of nine of the many new species that he described from his extensive collecting expedition to Australia (Clark 1938). More recent additions have come from the extensive BANZARE collections and this museum holds the Echinoidea (Mortensen 1950) and Ophiuroidea (Madsen 1967) types and some of the secondary types of the Crinoidea (John 1939) and Asteroidea (A. M. Clark 1962).

The 64 species are arranged alphabetically according to the original name of the genus or species. Where a name change has occurred the most recent name is given together with the relevant reference.

The following abbreviations are used in the text. BANZARE = British, Australia and New Zealand Antarctic Research Expedition, 1929-1931. BM = British Museum. MCZ =

Museum of Comparative Zoology, Harvard University, U.S.A. S.A. = South Australia. SAM = South Australian Museum, Vic. = Victoria. NMV = National Museum of Victoria. W.A. = Western Australia. WAM = Western Australian Museum.

CLASS CRINOIDEA

Genus Euantedon A. H. Clark, 1912

Euantedon paucicirra H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 369-370, fig. 109.

Holotype: K37 (was E399), dried specimen, from St. Vincent Gulf, S.A., collected by J. C. Veroo, date of collection unknown.

Genus Nanometra A. H. Clark, 1907

Nanometra johnstoni John, 1939.

BANZARE Rep. Ser. B. 4 (6): 193-196.

Paratypes: K1563, two specimens in spirit, from BANZARE station 113 (42° 40' S, 148° 27' 30" E), off Tasmania, depth 122 m, collected 23.iii.1931. (Holotype and other paratypes in BM.)

Note:—These specimens are incorrectly labelled as co-types as a type specimen was clearly selected.

Genus Teliocrinus Döderlein, 1912

Teliocrinus monarthrus H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 365-366, fig. 108.

= *Teliocrinus springeri* (A. H. Clarke, 1909): after H. L. Clark, 1946: 20.

Holotype: K1382 (was E391), spirit specimen with no collection or locality data.

CLASS ASTEROIDEA

Genus Allostichaster Verrill, 1914

Allostichaster regularis H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 400-401, fig. 115.

Holotype: K169 (was E437), dried specimen, from St. Vincent Gulf, S.A., collected by J. C. Veroo, date of collection unknown.

Paratype: K1383, eleven dried specimens, from St. Vincent and Spencer Gulfs, S.A., collected by J. C. Veroo, date of collection unknown.

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Genus *Asterina* Nardo, 1834***Asterina alba* H. L. Clark, 1938.***Mem. Mus. comp. Zool. Harv.* **55**: 150-152.

Paratypes: K718, two dry specimens, from Neds Beach, Lord Howe Island, collected April, 1932. (Holotype in MCZ).

Asterina crassispina* H. L. Clark, 1928.Rec. S. Aust. Mus.* **3** (4): 390-391, fig. 112.

Holotype: K101 (was E425), dried specimen, from Northern Australia. No other collection data available.

Asterina lutea* H. L. Clark, 1938.Mem. Mus. comp. Zool. Harv.* **55**: 153-155, pl. 12, fig. 2.

Paratype: K716, dried specimen, from under surface of rock near low water mark, Entrance Point, Broome, W.A., collected August-September, 1929. (Holotype in MCZ).

Genus *Astropecten* Gray, 1840***Astropecten syntomus* H. L. Clark, 1928.***Rec. S. Aust. Mus.* **3** (4): 372-373, fig. 110.=*Astropecten pectinatus* Sladen, 1883; after Shepherd, 1968: 733.

Holotype: K45 (was E409), dried specimen with no collection or locality data but presumably from S.A.

Genus *Cycethra* Bell, 1902***Cycethra verrucosa mawsoni* A. M. Clark, 1962.***BANZARE Rep. Ser. B.* **9** (1): 25-27.

Paratypes: K1530, five specimens in spirit, from BANZARE station 30 (66° 48' S, 71° 24' E), off MacRobertson Land, depth 540 m, collected 27.xii.1929. K1531, four specimens in spirit, from BANZARE station 39 (66° 10' S, 49° 41' E) off Enderby Land, depth 300 m, collected 17.i.1930. K1532, one specimen in spirit, from BANZARE station 41 (65° 48' S, 53° 16' E), off Enderby Land, depth 193 m, collected 24.i.1930. K1533, one specimen in spirit, from BANZARE station 42 (65° 50' S, 54° 23' E), off Enderby Land, depth 220 m, collected 26.i.1930 (Holotype and other paratypes in BM).

Genus *Echinaster* Müller and Troschel, 1840***Echinaster glomeratus* var. *extremus* H. L. Clark, 1928.***Rec. S. Aust. Mus.* **3** (4): 396, fig. 114.

Holotype: K156 (was E432), dried specimen with no collection or locality data but presumably from S.A.

Note:—The original label with the specimen, which is in Clark's handwriting, gives the varietal name as *extremis*, but it was eventually published as *extremus*, which is the correct Latin form of this superlative adjectival form.***Echinaster varicolor* H. L. Clark, 1938.***Mem. Mus. comp. Zool. Harv.* **55**: 184-186, pl. 11, fig. 1.

Paratype: K729, dried specimen, from sandy bottom, S.W. of Broome, W.A., in 5-8 fms., collected June, 1932 (Holotype in MCZ).

Genus *Goniodiscaster* H. L. Clark, 1909***Goniodiscaster acanthodes* H. L. Clark, 1938.***Mem. Mus. comp. Zool. Harv.* **55**: 84-87, pl. 5, fig. 2.

Paratype: K726, dried specimen, from firm sandy bottom, S.W. of Broome, W.A., in 7-8 fms., collected June, 1932. (Holotype in MCZ).

Genus *Kenrickaster* A. M. Clark, 1962***Kenrickaster pedicellaris* A. M. Clark, 1962.***BANZARE Rep. Ser. B.* **9** (1): 81-82.

Paratypes: K1536, seven specimens in spirit, from BANZARE station 39 (66° 10' S, 49° 41' E), off Enderby Land, depth 300 m, collected 17.i.1930. K1537, two specimens in spirit, from BANZARE station 107 (66° 45' S, 62° 03' E), off MacRobertson Land, depth 219 m, collected 16.ii.1931. (Holotype and other paratypes in BM).

Genus *Lysasterias* Fisher, 1908***Lysasterias digitata* A. M. Clark, 1962.***BANZARE Rep. Ser. B.* **9** (1): 91-92.

Paratypes: K1534, four specimens in spirit, from BANZARE station 40 (66° 12' S, 49° 37' E), off Enderby Land, depth 300 m, collected 17.i.1930. K1535, seven specimens in spirit, from BANZARE station 105 (67° 46' S, 67° 03' E), near Murray Monolith, MacRobertson Land, depth 163 m, collected 13.ii.1931. (Holotype and other paratypes in BM).

Genus *Nectria* Gray, 1840***Nectria multispina* H. L. Clark, 1928.***Rec. S. Aust. Mus.* **3** (4): 375-378, fig. 111.

Holotype: K50 (was E413), dried specimen with no collection or locality data but presumably from St. Vincent or Spencer Gulf, S.A.

Paratypes: K52, two dried specimens with no locality data but presumably from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, February, 1891.

Nectria saoria Shepherd, 1967.

Rec. S. Aust. Mus. **15** (3): 475-478, fig. 2.

Holotype: K670, dried specimen, from Wright Island, Encounter Bay, S.A., on granite, on exposed side, living on encrusting sponge and ascidians, depth 30-40ft., collected by S. A. Shepherd, 8.vi.1963.

Paratypes: K627, three dried specimens, from West Island, Encounter Bay, S.A., depth 30ft., collected by S. A. Shepherd, 23.viii.1964. K628, four dried specimens from submerged limestone reef between Wright Island and The Bluff, Encounter Bay, S.A., depth 30ft., collected by S. A. Shepherd, 8.vi.1963. K656, one dried specimen with same collection data as K628. K658, one dried specimen, from limestone reef between Thistle and Hopkins Island, Spencer Gulf, S.A., depth 30ft., collected by S. A. Shepherd, January, 1964.

Nectria wilsoni Shepherd and Hodgkin, 1965.

J. Roy. Soc. W.A. **48** (4): 119-121, fig. 1g.

Paratype: K613, dried specimen, from Hall Bank near Fremantle, W.A., on dead coral, collected by B. R. Wilson, 1.ii.1963. (Holotype and other paratypes in WAM).

Genus *Nepanthia* Gray, 1840

Nepanthia grandis H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 393-395, fig. 113.

=*Paranepanthia grandis* (H. L. Clark, 1928), after H. L. Clark, 1938: 159.

Holotype: K152 (was E430), dried specimen, from S.A. coast, collected by J. C. Verco, date of collection unknown.

Paratypes: K151, one dried specimen, from Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown. K153, three dried specimens, including a six and a four rayed individual, from Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown. K557, one dried juvenile with no collection or locality data but presumably from S.A.

Nepanthia variabilis H. L. Clark, 1938.

Mem. Mus. comp. Zool. Harv. **55**: 176-179, pl. 10, fig. 4.

Paratype: K725, dried specimen, from Broome, W.A., collected August, 1929. (Holotype in MCZ).

Genus *Paranepanthia* Fisher, 1917

Paranepanthia rosea H. L. Clark, 1938.

Mem. Mus. comp. Zool. Harv. **55**: 161-162.

Paratypes: K713, two dried specimens, from the cove on the N.E. corner of Rottneest Island, W.A., collected 19.x.1929. (Holotype in MCZ).

Genus *Psalidaster* Sladen, 1885

Psalidaster mordax rigidus A. M. Clark, 1962.

BANZARE Rep. Ser. B. **9** (1): 79-80.

Paratype: K1529, spirit specimen, from BANZARE station 105 (64° 46' S, 67° 03' E), near Murray Monolith, MacRobertson Land, depth 163 m, collected 13.ii.1931. (Holotype in BM).

Genus *Smilasterias* Sladen, 1889

Smilasterias irregularis H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 402-403, fig. 116.

Holotype: K171 (was E438), dried specimen, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Genus *Uniophora* Gray, 1840

Uniophora gymnonota H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 405-7, fig. 118.

Holotype: K179 (was E440), dried specimen, dredged between Backstairs Passage and The Pages, S.A., depth about 25 fms., collected Field Naturalists Excursion, April, 1888.

Paratypes: K178, dried, non-typical specimen, with no collection or locality data. K180, dried specimen with no collection or locality data. K1384, dried specimen, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Note:—Shepherd (1967a) considers this species as conspecific with *U. nuda* (Perrier, 1875) but Shepherd's revision of the genus still remains to be generally accepted.

Uniophora multispina H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 407-409, fig. 119.

Holotype: K184 (was E441), dried specimen, from Henley Beach, S.A., collected by C. B. Adcock, November, 1890.

Paratypes: K185, two dried specimens with same locality and collection data as holotype.

Note:—Shepherd (1967a) considers this species as conspecific with *U. granifera* (Lamarck, 1816).

Uniophora obesa H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 409-411, fig. 120.

Holotype: K190 (was E442), dried specimen, from Rocky Point, Eastern Cove, North Coast, Kangaroo Island, S.A., collected 2.x.1901, (Paratype in MCZ).

Note:—As for *U. multispina*.

Uniophora uniserialis H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 413-416, fig. 122.

Holotype: K193 (was E444), dried specimen, from St. Vincent Gulf, S.A. No other collection data available.

Paratype: K1385, dried juvenile specimen, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Note:—As for *U. multispina*.

CLASS OPHIUROIDEA

Genus *Amphiura* Forbes, 1843

Amphiura phrixa H. L. Clark, 1938.

Mem. Mus. comp. Zool. Harv. 55: 232-233.

Paratypes: K745, two dried specimens, from Roebuck Bay, Broome, W.A., depth 5-8 fms., collected June, 1932. (Holotype in MCZ).

Amphiura trisacantha H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 425-426, fig. 125.

Holotype: K212 (was E455), dried specimen consisting of disc and only one broken arm still attached, no collection or locality data but presumed to be from either Spencer or St. Vincent Gulf, S.A.

Genus *Anophiura* H. L. Clark, 1939

Anophiura banzareï Madsen, 1967

BANZARE Rep. Ser. B. 9 (3): 135-136, fig. 4.

Holotype: K1231, dried specimen, from BANZARE station 29 (66° 28' S, 72° 41' E), off Princess Elizabeth Land, depth 1 266 m, collected 25.xii.1929.

Genus *Asteronyx* Mueller & Troschel, 1842

Asteronyx banzareï Madsen, 1967.

BANZARE Rep. Ser. B. 9 (3): 140-141, pl. 1, figs. 1-2; text fig. 6.

Holotype: K1318, dried specimen, from BANZARE station 76 (35° 18' S, 118° 15' E), East of Albany, W.A., depth 62 m., collected 21.iii.1930.

Paratypes: K1319, six spirit specimens with same locality and collection data as holotype. (Incorrectly labelled co-types).

Other specimens: K1320, two dried, slightly damaged specimens with same locality and collection data as holotype.

Note:—According to A. N. Baker, National Museum, Wellington, N.Z. (pers. comm.), this species is conspecific with *Ophiuropsis adhaerens* (Studer), 1884.

Genus *Astroconus* Döderlein, 1911

Astroconus pulcher H. L. Clark, 1939.

Rec. S. Aust. Mus. 6 (3): 207-208, pl. 18.

Holotype: K561, dried specimen, from Cape Dutton, S.A. (in crayfish pot), depth 20 fms., collected by K. Mattson, date of collection unknown.

Genus *Ophiacantha* Mueller & Troschel, 1842

Ophiacantha brachygnatha H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 420-422, fig. 123.

Holotype: K208 (was E453), dried specimen from Spencer or St. Vincent Gulf, S.A., collected by J. C. Verco, date of collection unknown. (Paratype in MCZ).

Genus *Ophiactis* Lütken, 1856

Ophiactis fuscolineata H. L. Clark, 1938.

Mem. Mus. comp. Zool. Harv. 55: 266-267.

Paratypes: K744, two dried specimens, from Broome, W.A., depth 5-8 fms., collected June, 1932. (Holotype in MCZ).

Ophiactis tricolor H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 427-429, fig. 126.

Holotype: K213 (was E458), dried specimen with only four arms, no collection or locality data but presumably from S.A.

Paratype: K214, dried specimen with only three arms, no collection or locality data but presumably from S.A. (Other paratypes in MCZ).

Genus *Ophiocoma* Agassiz, 1836

Ophiocoma canaliculata var. *pulchra* H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 439-440, fig. 131.
= *Ophiocoma pulchra* (H. L. Clark, 1928); after H. L. Clark, 1938: 333.

Holotype: K241 (was E470), dried specimen with no collection or locality data.

Paratypes: K1387, three specimens in spirit, from St. Vincent Gulf, S.A., collected by J. C. Verco, date of collection unknown. (Other paratypes in MCZ).

Ophiocoma occidentalis H. L. Clark, 1938.

Mem. Mus. comp. Zool. Harv. **55**: 334-337.

Paratype: K699, dried specimen, from Point Peron, W.A., collected October, 1929. (Holotype in MCZ).

Genus Ophiocomina Koehler, 1920

Ophiocomina australis H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 422-425, fig. 124.

Holotype: K211 (was E454), spirit specimen with no collection or locality data but presumably from S.A.

Paratypes: K209, five spirit specimens, from between Trowbridge Lighthouse and Backstairs Passage, S.A., collected by J. C. Verco, date of collection unknown. K210, three spirit specimens, from Port Vincent, S.A., collected by J. C. Verco, date of collection unknown. K1386, three spirit specimens, from near Trowbridge Island, S.A., collected by J. C. Verco, date of collection unknown. (Other paratypes in MCZ).

Genus Ophiocrossota H. L. Clark, 1928

Ophiocrossota heteracantha H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 451-453, fig. 136.

=*Ophiocrossota multispina* (Ljungman, 1867); after H. L. Clark, 1946: 267.

Holotype: K258 (was E484), dried specimen, from Spencer or St. Vincent Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Paratypes: K1387, thirty-eight spirit specimens with same locality and collection data as holotype. (Other paratypes in MCZ).

Genus Ophiocten Lütken, 1855

Ophiocten banzarei Madsen, 1967.

BANZARE Rep. Ser. B. **9** (3): 139, pl. 1, figs. 3-4; text fig. 5.

Holotype: K1302, dried specimen, from BANZARE station 39 (66° 10' S, 49° 41' E), off Enderby Land, depth 300 m., collected 17.i.1930.

Other specimens: K1301, two dried specimens with same locality and collection data as holotype. K1303, seven dried specimens, from BANZARE station 41 (65° 48' S, 53° 16' E), off Enderby Land, depth 193 m., collected 25.i.1930. K1304, three small specimens in spirit, from BANZARE station 42 (65° 50' S, 54° 23' E), off Enderby Land, depth 220 m., collected 26.i.1930.

Note:—No paratypes designated.

Genus Ophiomusium Lyman, 1869

Ophiomusium anisacanthum H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 446-447, fig. 133.

Holotype: K254 (was E480), dried specimen consisting of disc and broken arms, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Paratypes: K1388, two dried specimens with same locality and collection data as holotype. (Other paratypes in MCZ).

Ophiomusium aporum H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 447-449, fig. 134.

Holotype: K255 (was E481), dried specimen, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown. (Paratype in MCZ).

Ophiomusium simplex var. *australe* H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 449, fig. 135.

Holotype: K256 (was E482), dried specimen, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Genus Ophiothrix Mueller & Troschel, 1840

Ophiothrix albostrata H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 429-430, fig. 127.

=*Ophiothrix* (*Placophiothrix*) *albostrata* H. L. Clark, 1928; after A. M. Clark, 1967: 648.

Holotype: K215 (was E459), dried specimen, from Great Australian Bight, presumably collected by J. C. Verco, date of collection unknown.

Ophiothrix hymenacantha H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 431-432, fig. 128.

=*Ophiothrix* (*Keystonea*) *hymenacantha* H. L. Clark, 1928; after A. M. Clark, 1967: 648.

Holotype: K217 (was E462), dried specimen, from Great Australian Bight, presumably collected by J. C. Verco, date of collection unknown.

Ophiothrix lineocerulea H. L. Clark, 1928.

Rec. S. Aust. Mus. **3** (4): 432-433, fig. 129.

=*Ophiothrix* (*Placophiothrix*) *lineocerulea* H. L. Clark, 1928; after A. M. Clark, 1967: 648.

Holotype: K218 (was E463), dried specimen, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Note:—The cited locality of the holotype is probably incorrect as no other specimens of this species have been found in Southern Australia and yet it is a common species in the Broome region, W.A.

Genus *Ophiurodon* Matsumoto, 1915

***Ophiurodon opacum* H. L. Clark, 1928.**

Rec. S. Aust. Mus. 3 (4): 440-442, fig. 132.

Holotype: K243 (was E471), dried specimen with broken arms, from St. Vincent or Spencer Gulf, S.A., collected by J. C. Verco, date of collection unknown. (Paratype in MCZ).

Genus *Ophiurolepis* Matsumoto, 1915, emend. Koehler, 1922

***Ophiurolepis banzarei* Madsen, 1967.**

BANZARE Rep. Ser. B. 9 (3): 134, pl. 1, figs. 7-8; text fig. 3.

Holotype: K1207, spirit specimen, from BANZARE station 41 (65° 48' S, 53° 16' E), off Enderby Land, depth 193 m., collected 24-25.i.1930.

Other specimens: K1206, four spirit specimens, from BANZARE station 39 (66° 10' S, 49° 41' E), off Enderby Land, depth 300 m., collected 17.i.1930. K1208, 44 spirit specimens with same locality and collection data as holotype. K1209, one dried specimen with same locality and collection data as holotype. K1210, nine spirit specimens, from BANZARE station 42 (65° 50' S, 54° 23' E), off Enderby Land, depth 220 m., collected 26.i.1930. K1211, two dried specimens, from BANZARE station 107 (66° 45' S, 62° 03' E), off MacRobertson Land, depth 219 m., collected 16.ii.1931. K1212, twelve spirit specimens with same locality and collection data as K1211.

Note:—No paratypes designated.

CLASS ECHINOIDEA

Genus *Ammotrophus* H. L. Clark, 1928

***Ammotrophus cyclius* H. L. Clark, 1928.**

Rec. S. Aust. Mus. 3 (4): 471-474, fig. 140.

Holotype: K401 (was E644), dried specimen, from Spencer or St. Vincent Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Paratypes: K397, twenty-eight dried specimens, dredged at Encounter Bay, S.A., collector and date of collection unknown. K398, eleven dried specimens, from Encounter Bay, S.A., collected by H. Pulleine, date of collection

unknown. K399, one dried specimen with no collection or locality data. K504, two dried specimens with no collection or locality data. K1391, twenty dried specimens, from Spencer or St. Vincent Gulf, S.A., collected by J. C. Verco, date of collection unknown. (Other paratypes in MCZ).

***Ammotrophus platyterus* H. L. Clark, 1928.**

Rec. S. Aust. Mus. 3 (4): 474-475, fig. 141.

Holotype: K477 (was E645), dried specimen, dredged in deep water in St. Vincent Gulf, S.A., collected by J. C. Verco, date of collection unknown.

Genus *Amphipneustes* Koehler, 1900

***Amphipneustes bifidus* Mortensen, 1950.**

BANZARE Rep. Ser. B. 4 (10): 304-305 pl. 7, figs. 1-3; pl. 9, figs. 7-9.

Holotype: K857, dried specimen, from BANZARE station 107 (66° 45' S, 62° 03' E), off MacRobertson Land, depth 219 m., collected 16.ii.1931.

Paratypes: K855, one juvenile specimen in spirit, from BANZARE station 41 (65° 48' S, 53° 16' E), off Enderby Land, depth 193 m., collected 24.i.1930. K856, two specimens in spirit, (one broken), from BANZARE station 42 (65° 50' S, 54° 23' E), off Enderby Land, depth 220 m., collected 26.i.1930. K859, one spirit specimen with same locality and collection data as holotype.

Other specimens:—K858, seven juvenile specimens in spirit with same locality and collection data as holotype.

Genus *Ctenocidaris* Mortensen, 1910

***Ctenocidaris polyplax* Mortensen, 1950.**

BANZARE Rep. Ser. B. 4 (10): 296-297, pl. 8, figs. 1, 2, 8; pl. 9, fig. 4.

Holotype: K815, dried specimen, from BANZARE station 41 (65° 48' S, 53° 16' E), off Enderby Land, depth 200 m., collected 24.i.1930.

Genus *Eucidaris* Pomel, 1883

***Eucidaris australiae* Mortensen, 1950.**

BANZARE Rep. Ser. B. 4 (10): 291-293, pl. 8, figs. 5-7; pl. 9, figs. 3, 5, 6; text figs. 1-4.

Holotype: K801, dried specimen, from BANZARE station 76 (35° 18' S, 118° 15' E), East of Albany, W.A., depth 69 m., collected 21.iii.1930.

Genus Fibularia Lamarek, 1816**Fibularia plateia** H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 477-478, fig. 142.

Holotype: K448 (was E650), dried bare test, from Wallaroo Bay, S.A., depth 15 fms., collected by J. C. Verco, date of collection unknown.

Note:—Most of the specimens mentioned by Clark (1928) are present in the Museum's collections but none have been designated paratypes. There are however, 37 paratypes from Backstairs Passage, S.A., in the MCZ.

Genus Genocidaris Agassiz, 1869**Genocidaris incerta** H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 457-458, fig. 137.

Holotype: K293 (was E623), dried, bare test, broken in half, from off Cape Jaffa, S.A., dredged in 300 fms., collected by J. C. Verco, date of collection unknown.

Paratype: K294, dried, bare test with no locality or collection data. (Other paratypes in MCZ.)

Note:—Most of the other specimens mentioned by Clark (1928) are present in the Museum's collections but none have been designated paratypes.

Genus Microcyphus Agassiz, 1841**Microcyphus pulchellus** H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 462-463, fig. 139.

Holotype: K340 (was E628), dried bare test, from Spencer Gulf, S.A., presumably collected by J. C. Verco, date of collection unknown.

Genus Notocidaris Mortensen, 1909**Notocidaris remigera** Mortensen, 1950.

BANZARE Rep. Ser. B, 4 (10): 298-299, pl. 5, figs. 1-2; pl. 8, figs. 3-4.

Holotype: K826, spirit specimen, from BANZARE station 107 (66° 45' S, 62° 03' E), off MacRobertson Land, depth 219 m., collected 16.ii. 1931.

Paratypes: K824, one dried, bare test and a few spines with same locality and collection data as holotype. K825, one dried, bare test and a few spines with same locality and collection data as holotype.

Other material: K821, five isolated dried spines, from BANZARE station 39 (66° 10' S, 49° 41' E), off Enderby Land, depth 300 m., collected 17.i.1930. K822, two isolated dried spines, from BANZARE station 40 (66°

12' S, 49° 37' E), off Enderby Land, depth 300 m., collected 17.i.1930. K823, one very young dried specimen with same locality and collection data as holotype.

Genus Phyllacanthus Brandt, 1835**Phyllacanthus irregularis** var. *kimberi* Cotton & Godfrey, 1942.

Rec. S. Aust. Mus. 7 (2): 216-217, pl. 12.

Holotype: K576, dried specimen, from Port Willunga, S.A., collected by W. R. Steadman, date of collection unknown.

Note:—Although a number of other specimens were available no paratypes were designated.

Genus Temnopleurus Agassiz, 1841**Temnopleurus australis** H. L. Clark, 1928.

Rec. S. Aust. Mus. 3 (4): 458-461, fig. 138.

—*Temnopleurus (Toreumatica) michaelsoni* (Döderlein, 1914); after Mortensen 1943: 105.

Holotype: K298 (was E464), dried specimen, from Port Lincoln, S.A., collector and date of collection unknown.

Paratypes: K299, one dried specimen with no locality or collection data. K314, five dried specimens with same locality and collection data as holotype. K315, one dried specimen with no locality or collection data (figured). K1390, six small dried specimens, from between Trowbridge lighthouse and Backstairs Passage, S.A., collected by J. C. Verco, date of collection unknown. (Other paratypes in MCZ).

Note:—Most of the other specimens mentioned by Clark (1928) are present in the Museum's collections but none have been designated paratypes.

CLASS HOLOTHURIOIDEA**Genus Cucumaria** Blainville, 1830**Cucumaria siriata** Joshua & Creed, 1915.

Trans. R. Soc. S. Aust. 39: 18, pl. 3, figs. 2a-d.

Holotype: K1371, spirit specimen, from Great Australian Bight, W.A., collected by J. W. Howard, August 1888.

Genus Phyllophorus Grube, 1840**Phyllophorus ventripes** Joshua & Creed, 1915.

Trans. R. Soc. S. Aust. 39: 19, pl. 2, fig. 1; pl. 3, fig. 5.

—*Lipotracheza ventripes* (Joshua & Creed, 1915), alter H. L. Clark, 1938: 495.

Holotype: K1374, dried specimen, from S.A. coast, collected by J. C. Verco, date of collection unknown.

Other specimens: K1375, four spirit specimens collected with holotype and with note "in MSS".

Genus *Thyone* Oken, 1815

Thyone nigra Joshua & Creed, 1915.

Trans. R. Soc. S. Aust. **39**: 20, pl. 3, figs. 3a-c, 4.

Holotype: K1376, spirit specimen and one slide of spicules, collected between 33°-37° S and 132°-140° E, S.A., by J. C. Verco, date of collection unknown.

Thyone vercoi Joshua & Creed, 1915.

Trans. R. Soc. S. Aust. **39**: 19, pl. 2, figs. 2-4; pl. 3, figs. 1a-g; pl. 4.

=*Straurothyone vercoi* (Joshua & Creed, 1915); after H. L. Clark, 1946: 397.

Holotype: K517, one slide of spicules from pharynx, one slide of T.S. pharynx, one slide of skin, one slide of tentacle tissue, dried remains of specimen, collected between 33°-37° S and 132°-140° E, S.A., by J. C. Verco, date of collection unknown.

Genus *Trochodota* Ludwig, 1891

Trochodota roebucki Joshua, 1914.

Proc. Roy. Soc. Vic. **27**: 9, pl. 1, figs. 4a-c.

Paratypes: K1712, two dry specimens from Torquay Vic., collected by E. C. Joshua, October 1913.

Note:—Obtained on exchange from NMV, 1919. (Old NMV Reg. 60647-8).

Trochodota shepherdii Rowe, 1976.

Trans. R. Soc. S. Aust. **100** (4): 203-206, figs. 1-4.

Paratypes: K1366, two spirit specimens, from Proper Bay, Port Lincoln, among algae growing on *Pinna dolabrata* (= *P. bicolor*), depth 10 m., collected by S. A. Shepherd, 23.viii.1975.

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